

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Withdrawn): A data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data.

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

Claim 2 (Withdrawn): The data structure of a feature guidance information according to claim 1,

wherein the sub-areas are divided in a matrix, and

wherein the unique mesh information corresponds to the measure of the sub-areas each constituting a cell of the matrix in vertical and horizontal directions.

Claim 3 (Withdrawn): The data structure of a feature guidance information according to claim 1, wherein the guidance information of the guidance is recorded being associated with each data.

Claim 4 (Withdrawn): A recording medium storing a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data in a manner readable by a computing section.

Claim 5 (Withdrawn): A recording medium storing a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:

- a feature data area that stores a unique feature information associated with the feature;
- a guidance position data area that stores a unique guidance position information associated with the guidance position of the feature; and
- a mesh data area that stores a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position in pairs.

Claim 6 (Withdrawn): A recording medium storing a feature guidance information readable by a computing section to provide guidance on a feature by the computing section when a movable

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:

a unique feature information associated with the respective features;

a unique guidance position information respectively associated with the guidance position of the feature; and

a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information,

wherein the unique feature information, the unique guidance position information and the unique mesh information are recorded as the single feature guidance information.

Claim 7 (Currently Amended): A navigation device, comprising:

a storage in which an area representing positions of features and guidance positions located on a route for a movable body to be moved at which a guidance for the respective features is provided is divided into sub-areas according to a positional relationship shown in a map so that at most one feature or guidance position is contained in each of the sub-areas, each of the sub-areas being associated with unique mesh information, the storage storing feature guidance information

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

including unique feature information associated with the respective features and the unique mesh information representing one of the sub-areas including the guidance position for the feature, the unique feature information and the unique mesh information being recorded in plurality of pairs;

a feature guidance information acquiring section that acquires [[a]] the feature guidance information read from the storage; based on a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data;

a current position information acquiring section that acquires a current position information for a current position of the movable body; and

a guidance providing section that provides guidance on a feature by recognizing that a movable body is positioned at a guidance position of the feature guidance information based on the

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

acquired feature guidance information and the acquired current position information.

Claim 8 (Currently Amended): [[A]] The navigation device according to claim 7,
comprising:

~~a feature guidance information acquiring section that acquires a feature guidance information readable from a recording medium storing a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,~~

~~wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and~~

~~wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data in a manner readable by a computing section;~~

~~a current position information acquiring section that acquires a current position information for a current position of the movable body, and~~

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

~~a guidance providing section that provides guidance on a feature by recognizing that a movable body is positioned at a guidance position of the feature guidance information based on the acquired feature guidance information and the acquired current position information~~

wherein the feature guidance information is recorded in the storage in a manner readable by a computer.

Claim 9 (Currently Amended): [[A]] The navigation device according to claim 8, comprising:

~~a feature guidance information acquiring section that acquires a feature guidance information readable from a recording medium storing a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:~~

~~a feature data area that stores a unique feature information associated with the feature;~~
~~a guidance position data area that stores a unique guidance position information associated with the guidance position of the feature; and~~

~~a mesh data area that stores a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position~~

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

in pairs;

the navigation device, further comprising:

a current position information acquiring section that acquires a current position information for a current position of the movable body; and

a guidance providing section that provides guidance on a feature by recognizing that a movable body is positioned at a guidance position of the feature guidance information based on the acquired feature guidance information and the acquired current position information

wherein the storage has a feature data area that stores the unique feature information; and a mesh data area that stores the unique mesh information representing one of the sub-areas including the guidance position for the feature.

Claim 10 (Canceled).

Claim 11 (Withdrawn): A navigation device for providing guidance on a feature by a computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the navigation device comprising:

a current position information acquiring section that acquires a current position information of a current position of the movable body;

a feature guidance information acquiring section that acquires a feature guidance information

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

including: a unique feature information associated with the respective features; a unique guidance position information respectively associated with the guidance position of the feature; and a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information; and

a guidance providing section that provides guidance on the corresponding feature associated with the guidance position, by recognizing that the movable body is positioned at the guidance position represented by the unique mesh information associated with a predetermined sub-area, when the movable body is moved to a position corresponding to the predetermined sub-area of the feature guidance information, based on the current position information and the feature guidance information.

Claim 12 (Original): The navigation device according to claim 7, further comprising:

a guidance information acquiring section that acquires the guidance information of the guidance on the feature while being associated with the feature position or the guidance position, wherein the guidance providing section provides the guidance based on the guidance information corresponding to the guidance position by recognizing that the movable body is

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

positioned at the guidance position.

Claim 13 (Original): The navigation device according to claim 8, further comprising:
a guidance information acquiring section that acquires the guidance information of the
guidance on the feature while being associated with the feature position or the guidance position,
wherein the guidance providing section provides the guidance based on the guidance
information corresponding to the guidance position by recognizing that the movable body is
positioned at the guidance position.

Claim 14 (Original): The navigation device according to claim 9, further comprising:
a guidance information acquiring section that acquires the guidance information of the
guidance on the feature while being associated with the feature position or the guidance position,
wherein the guidance providing section provides the guidance based on the guidance
information corresponding to the guidance position by recognizing that the movable body is
positioned at the guidance position.

Claim 15 (Canceled).

Claim 16 (Withdrawn): The navigation device according to claim 11, further comprising:
a guidance information acquiring section that acquires the guidance information of the

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

guidance on the feature while being associated with the feature position or the guidance position, wherein the guidance providing section provides the guidance based on the guidance information corresponding to the guidance position by recognizing that the movable body is positioned at the guidance position.

Claim 17 (Withdrawn): A navigation system, comprising:
a server unit provided with a storage that stores a feature guidance information based on a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data; and

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

a terminal unit connected to the server unit in a manner capable of communicating over network, the terminal unit including: a feature guidance information acquiring section that acquires a feature guidance information; a current position information acquiring section that acquires a current position information associated with a current position of the movable body; and a guidance providing section that provides guidance on a feature by recognizing that a movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 18 (Withdrawn): A navigation system, comprising:

a server unit provided with a storage that stores a feature guidance information readable from a recording medium storing a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data in a manner readable by a computing section; and

a terminal unit connected to the server unit in a manner capable of communicating over network, the terminal unit including: a feature guidance information acquiring section that acquires a feature guidance information; a current position information acquiring section that acquires a current position information associated with a current position of the movable body; and a guidance providing section that provides guidance on a feature by recognizing that a movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 19 (Withdrawn): A navigation system, comprising:

a server unit provided with a storage that stores a feature guidance information readable from a recording medium storing a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:

a feature data area that stores a unique feature information associated with the feature;
a guidance position data area that stores a unique guidance position information associated with the guidance position of the feature; and

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

a mesh data area that stores a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position in pairs,

the navigation system, further comprising a terminal unit connected to the server unit in a manner capable of communicating over network, the terminal unit including: a feature guidance information acquiring section that acquires a feature guidance information; a current position information acquiring section that acquires a current position information associated with a current position of the movable body; and a guidance providing section that provides guidance on a feature by recognizing that a movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 20 (Withdrawn): A navigation system, comprising:
a server unit provided with a storage that stores a feature guidance information readable from a recording medium storing a feature guidance information readable by a computing section to provide guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:
a unique feature information associated with the respective features;

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

a unique guidance position information respectively associated with the guidance position of the feature; and

a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information,

wherein the unique feature information, the unique guidance position information and the unique mesh information are recorded as the single feature guidance information,

the navigation system, further comprising a terminal unit connected to the server unit in a manner capable of communicating over network, the terminal unit including: a feature guidance information acquiring section that acquires a feature guidance information; a current position information acquiring section that acquires a current position information associated with a current position of the movable body; and a guidance providing section that provides guidance on a feature by recognizing that a movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 21 (Withdrawn): A navigation system for providing guidance on a feature by a computing section when a movable body is moved to a predetermined guidance position located

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

ahead of the position of the feature in a moving direction of the movable body toward the feature, the navigation system comprising:

a server unit provided with a storage that stores feature guidance information, the server unit including: a unique feature information associated with the respective features; a unique guidance position information respectively associated with the guidance position of the feature; and a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information; and

a terminal unit connected to the server unit in a manner capable of communicating over network, the terminal unit including: a feature guidance information acquiring section that acquires a feature guidance information; a current position information acquiring section that acquires a current position information associated with a current position of the movable body; a guidance providing section that provides guidance on a feature by recognizing that a movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

Claim 22 (Withdrawn): The navigation system according to claim 17, wherein the guidance providing section recognizes that the movable body is positioned at the guidance position represented by the unique mesh information associated with a predetermined sub-area when the movable body is moved to a position corresponding to the predetermined sub-area of the feature guidance information.

Claim 23 (Withdrawn): The navigation system according to claim 18, wherein the guidance providing section recognizes that the movable body is positioned at the guidance position represented by the unique mesh information associated with a predetermined sub-area when the movable body is moved to a position corresponding to the predetermined sub-area of the feature guidance information.

Claim 24 (Withdrawn): The navigation system according to claim 19, wherein the guidance providing section recognizes that the movable body is positioned at the guidance position represented by the unique mesh information associated with a predetermined sub-area when the movable body is moved to a position corresponding to the predetermined sub-area of the feature guidance information.

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

Claim 25 (Withdrawn): The navigation system according to claim 20, wherein the guidance providing section recognizes that the movable body is positioned at the guidance position represented by the unique mesh information associated with a predetermined sub-area when the movable body is moved to a position corresponding to the predetermined sub-area of the feature guidance information.

Claim 26 (Withdrawn): The navigation system according to claim 21, wherein the guidance providing section recognizes that the movable body is positioned at the guidance position represented by the unique mesh information associated with a predetermined sub-area when the movable body is moved to a position corresponding to the predetermined sub-area of the feature guidance information.

Claim 27 (Withdrawn): A navigation method for providing guidance on a feature by a computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the method comprising the steps of:

acquiring a feature guidance information including: a unique feature information associated with the respective features; a unique guidance position information respectively associated with the guidance position of the feature; and a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information; and providing guidance on the feature by recognizing that the movable body is positioned at the guidance position of the feature based on the feature guidance information and the current position information.

Claim 28 (Withdrawn): A navigation method, comprising the steps of:

reading a feature guidance information based on a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

information to represent the position of the feature or the guidance information, is stored as one data,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 29 (Withdrawn): A navigation method, comprising the steps of:

reading a feature guidance information readable from a recording medium storing a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

information to represent the position of the feature or the guidance information, is stored as one data in a manner readable by a computing section,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 30 (Withdrawn): A navigation method, comprising the steps of:

reading a feature guidance information readable from a recording medium storing a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:

a feature data area that stores a unique feature information associated with the feature;

a guidance position data area that stores a unique guidance position information associated with the guidance position of the feature; and

a mesh data area that stores a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position in pairs,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 31 (Withdrawn): A navigation method, comprising the steps of:

reading a feature guidance information readable from a recording medium storing a feature guidance information readable by a computing section to provide guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:

a unique feature information associated with the respective features;

a unique guidance position information respectively associated with the guidance position of the feature; and

a unique mesh information associated with a sub-area representing the feature position and

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information,

wherein the unique feature information, the unique guidance position information and the unique mesh information are recorded as the single feature guidance information,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 32 (Withdrawn): A navigation program executing a navigation method for providing guidance on a feature by a computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the program being executed by a computing section, the method comprising the steps of:

acquiring a feature guidance information including: a unique feature information associated

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

with the respective features; a unique guidance position information respectively associated with the guidance position of the feature; and a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information; and providing guidance on the feature by recognizing that the movable body is positioned at the guidance position of the feature based on the feature guidance information and the current position information.

Claim 33 (Withdrawn): A navigation program executing a navigation method by a computing section, the method comprising the steps of:

reading a feature guidance information based on a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 34 (Withdrawn): A navigation program executing a navigation method by a computing section, the method comprising the steps of:

reading a feature guidance information readable from a recording medium storing a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data in a manner readable by a computing section,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 35 (Withdrawn): A navigation program executing a navigation method by a computing section, the method comprising the steps of:

reading a feature guidance information readable from a recording medium storing a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature,

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

the recording medium comprising:

 a feature data area that stores a unique feature information associated with the feature;
 a guidance position data area that stores a unique guidance position information associated with the guidance position of the feature; and
 a mesh data area that stores a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position in pairs,

the method, further comprising the steps of:

 acquiring a current position information associated with a current position of a movable body; and

 providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 36 (Withdrawn): A navigation program executing a navigation method by a computing section, the method comprising the steps of:

 reading a feature guidance information readable from the recording medium storing a feature guidance information readable by a computing section to provide guidance on a feature by the

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:

a unique feature information associated with the respective features;

a unique guidance position information respectively associated with the guidance position of the feature; and

a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information,

wherein the unique feature information, the unique guidance position information and the unique mesh information are recorded as the single feature guidance information,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

Claim 37 (Withdrawn): A recording medium storing a navigation program in a manner readable by a computing section, the program executing a navigation method for providing guidance on a feature by a computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the program being executed by a computing section, the method comprising the steps of:

acquiring a feature guidance information including: a unique feature information associated with the respective features; a unique guidance position information respectively associated with the guidance position of the feature; and a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information; and

providing guidance on the feature by recognizing that the movable body is positioned at the guidance position of the feature based on the feature guidance information and the current position information.

Claim 38 (Withdrawn): A recording medium storing a navigation program in a manner readable by a computing section, the program executing a navigation method by a computing section,

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

the method comprising the steps of:

reading a feature guidance information based on a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

Claim 39 (Withdrawn): A recording medium storing a navigation program in a manner readable by a computing section, the program executing a navigation method by a computing section, the method comprising the steps of:

reading a feature guidance information readable from a recording medium storing a data structure of a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of position in a moving direction of the movable body toward the feature,

wherein an area representing the position of the feature and the guidance position according to a positional relationship shown in a map is divided into a plurality of sub-areas each of which includes at most one of the feature position and the guidance position, the sub-areas respectively being associated with unique mesh information, and

wherein a plurality of records including a unique feature information associated with the respective features and a unique guidance position information on the feature respectively associated with the guidance position of the feature, the records being further associated with the unique mesh information to represent the position of the feature or the guidance information, is stored as one data in a manner readable by a computing section,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

guidance position of the feature based on the feature guidance information and the current position information.

Claim 40 (Withdrawn): A recording medium storing a navigation program in a manner readable by a computing section, the program executing a navigation method by a computing section, the method comprising the steps of:

reading a feature guidance information readable from a recording medium storing a feature guidance information readable by a computing section for providing guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:

a feature data area that stores a unique feature information associated with the feature; a guidance position data area that stores a unique guidance position information associated with the guidance position of the feature; and

a mesh data area that stores a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area includes at most one of the feature and the guidance position in pairs,

the method, further comprising the steps of:

U.S. Patent Application Serial No. 10/760,363
Response filed September 5, 2006
Reply to OA dated June 2, 2006

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.

Claim 41 (Withdrawn): A recording medium storing a navigation program in a manner readable by a computing section, the program executing a navigation method by a computing section, the method comprising the steps of:

reading a feature guidance information readable from the recording medium storing a feature guidance information readable by a computing section to provide guidance on a feature by the computing section when a movable body is moved to a predetermined guidance position located ahead of the position of the feature in a moving direction of the movable body toward the feature, the recording medium comprising:

a unique feature information associated with the respective features;

a unique guidance position information respectively associated with the guidance position of the feature; and

a unique mesh information associated with a sub-area representing the feature position and the guidance position, the sub-area being divided from an area representing the feature position and the guidance position according to the positional relationship shown in a map so that each sub-area

U.S. Patent Application Serial No. 10/760,363

Response filed September 5, 2006

Reply to OA dated June 2, 2006

includes at most one of the feature and the guidance position, the unique mesh information associated with the unique feature information or the unique guidance position information to represent the position of the feature or the guidance information,

wherein the unique feature information, the unique guidance position information and the unique mesh information are recorded as the single feature guidance information,

the method, further comprising the steps of:

acquiring a current position information associated with a current position of a movable body; and

providing guidance on a feature by recognizing that the movable body is positioned at a guidance position of the feature based on the feature guidance information and the current position information.